MVE

Monitoring, Verification, and Evaluation (MVE) Unit
of the Egyptian Environmental Policy Program

Evaluation Analyses

DRAFT FINAL REPORT

Towards a Common Information Base For Egyptian Red Sea Protection and Development

Sample Catalog of Data Sources

July 2001

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Executive Committee
and
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Table of Contents

1. Introduction

This catalog currently describes a sample of data and information products about the study area. The Catalog of Data Sources is the output of a preliminary survey of a selected sample of the existing data. It was not intended to present data but only to give an idea about where to find data. Such presentation of data and information is based on the concept of metadata, discussed below. For more background information on the catalog see the main study report. The catalog is created as a series of MS Word documents organized in folders for the major Sectors and Sub-sectors.

1.1 Metadata

Metadata sometimes sounds complicated and it can be. However, the basic concept is very simple. Perhaps its simplest form and the one familiar to most people is the card catalog in a library. Each index card in the catalog tells about a book, report, map, journal series or other item or collection in the library. For example, for a book it gives the title, author, year published, publisher, perhaps a summary and keywords, and it tells where in the library the book should be found. These are metadata about the book. One uses the card catalog – the metadata – to determine if the book will likely be useful for our purpose and if so, where it can be found.

Metadata are more complicated for geo-referenced information sources such as satellite images and maps derived from the satellite images, and synthesized digital products of these images describing the geology, vegetation, etc. One of the essential functions of metadata in today's digital age is to document the lineage (origins of the data sources) of information. Digital images can be combined and reconfigured and may be used to prepare derived products. The credibility of information sources usually requires that the lineage of the original data sources be precisely recorded. This sort of information is usually given as part of the map legend, which might say that the map was made from aerial photographs from a specific year and resolution. For digital maps and images there are no printed legends, so digital metadata records replace the legend as the source of information.

The metadata for databases and geo-referenced digital information requires one additional sort of information; instructions for how the data can be handled in a computer. This component of metadata is structured for computers to read, interpret and to potentially act on the data.

Extending metadata to Internet applications adds additional complexities, but also makes data and information far more accessible. If metadata are prepared using a standard format, including instructions for computer-to-computer data exchanges, then it becomes possible to use the Internet to combine datasets and images from

different locations to do analysis and prepare unique products based on the most recent data from each source.

The *Metadata Primer* (http://www.lic.wisc.edu/metadata/metaprim.htm) adds this important function of metadata: "Metadata also insures that the data holdings of an agency are well documented and that agencies are not vulnerable to losing all the knowledge about their data when key employees retire or accept other jobs."

However complex metadata may seem, the principles are fairly simple. In all cases, the purpose of metadata is to provide information needed to determine if the item is likely to be useful for a given purpose, where it can be access, and how it can be used.

Much has been written about metadata over the past decade and competing formats have been proposed as standards. The International Standards Organization (ISO) is a proponent of metadata standards. (www.iso.org). One of the most widely used metadata standards are those developed by the U.S. Federal Geographic Data Committee (www.fgdc.gov). The FGDC metadata standards are thoroughly documented, supported by technical staff and training programs. The ISO and FGDC are currently working toward a common standard.
By adopting prevalent international standards for metadata, individual institutions can take advantage of existing documentation and training programs. The large user community, institutional stability, training programs and technical support, plus their convergence with the ISO international standard make the FGDC metadata a good choice for implementing metadata in Egypt or anywhere in the world. The EEAA Egyptian Environmental Information System uses the FGDC standards as the basis for their metadata.

1.2 Description and Use of the Catalog

The catalog identifies the title, citation, location, format, language, spatial coverage, temporal boundary, accessibility of the data, and methodology used to create each data sources. The catalog entries use the following format and conventions:

- **Sector**. The sector identifies the chapter in the catalog were the record is included. If more than one sector is represented in an information source, all sectors are listed, with the sector most important to the source listed first. Sub-sector is distinguished as needed and used to create sub-sections within the catalog.

- **Title**. The title is given first to provide readers with immediate information about the information source.

- **Citation**. The standard citation, as it would be used in the bibliography of a report.

- **Language**. Identifies the languages of the information source such as Arabic, English, Arabic and English (in the same volume).

- **Format**. Identifies the physical format of the information sources, such as hardcopy, database, or Internet.

- **Location.** Where the document can be acquired or viewed**.**

- **Accessibility.** Accessibility will be noted as "*Accessible"* indicating that the document could be viewed, photocopied or purchased at the location, "*Limited"* indicating that there are restrictions on access to the information or "*Not Available"* indicating that accessibility was not determined.

- **Content**. Describes the content of the information source.

- **Methodology.** Description of the methods used to gather the data presented in the information source.

- **Spatial Boundary**. Describes the geographic area coverage of the information source, with entries such as Egypt or Red Sea.

- **Temporal Boundary**. Gives the most recent date for the information. In many cases this will be the publication date. *"Current"* will be used to identify those programs with ongoing inventory programs or databases, "*Annual Report*" will be used to identify data collected through out the year and published annually.

- **Contact Information**. Includes contact information such as office address, telephone number, E-mail, Fax or contact person and other information needed to acquire the information or contact the offices or individuals regarding access to the information source or related services.

- **Catalog update**. Gives the date this record was last edited. This is primarily intended as an administrative tool for managing the update of the catalog.

There are 59 data sources identified in this catalog. They represent a wide scope of sources that include reports, research theses, satellite imageries, books, web-sites, etc. Table 1 illustrates the distribution of data sources for every sector and for every source type. Figures in the table show a balanced distribution of the three sectors within the selected sample. It also shows that "reports" represented the major data source, followed by databases and research articles and theses.

Table 1 Forms of Data Source Relevant to each Sector

Theme	Type of Data								
	Research Article / Thesis	Annual report	Report	Book	Atlas	Maps & Space Imagery	Data-base	Web-site	Total
Ecological Setting	3	1	8	2	-	2	5	1	22
Physical Setting	3	1	7		2	4	1	2	20
Socio-economic	2	1	9	1	-	1	3	-	17
Total	8	3	24	3	2	7	9	3	59

Different data sources identified in the catalog relate to various institutions and entities that have different interests and capacities as data and information sources. Table 2 lists some selected institutions identified during the study and shows the types of data sources existing by sector in these institutions. The table shows that, for the selected sample only, EEAA and donor projects, for example, are origins of data sources in the three sectors.

Table 2 Types of Data Sources for Selected Institutions

Institute	Physical Setting	Ecological Setting	Socio-economic
Center for Environment and Development for the Arab Region and Europe			❖
The Central Agency for Public Mobilization and Statistics			❖
Civil survey Authority	❖		
Desert Research Center	❖		
Donor Projects	❖	❖	❖
Egyptian Environmental Affairs Agency EEAA	❖	❖	❖
General Authority for Development of Fisheries for Fisheries			❖
General Organisation for Physical Planning	❖	❖	❖
General Petroleum Corporation	❖		
GIS Unit, Red Sea Governorate	❖	❖	❖
Information and Decision Support Center	❖		
Meteorological Survey Authority	❖		
Ministry of Renewable and Electric Energies			❖
Ministry of Transport and Communications	❖		

National Authority for Remote Sensing and Space Sciences	❖		❖
National Center for Documentation of Cultural and Natural Heritage		❖	
National Institute of Oceanography and Fisheries		❖	
Tourism Development Agency			❖
Universities	❖	❖	❖

2. Options for Maintaining and Updating the Catalog of Data Sources

2.1 Operational Objectives

Building this very preliminary version of a catalog has enabled the team to assess the current situation of existing data and information of the study area for the purposes of this report. Within the same context, the Catalog of Data Sources itself is a rudimentary initiative – or one component of the initiative - of the recommended building of a common information base for the Red Sea region. As a sample it provides only a demonstration for the potentials of further expanded products and arrangements.

The Catalog of Data Sources is considered a preliminary survey of a selected sample of the existing data. It was not intended to present the actual data but only to give an idea about where to find data. Accordingly, it requires further expansion and updating to produce a comprehensive metadata reference that is easily accessed and used by different stakeholders. In advanced phases it could be published on the Internet allowing for linkage with the original data source and obtaining the actual data. The short-term objective of the proposed initiative is to expand, maintain, and update the catalog sustaining a standard suitable format that allows it to be used as a nucleus for a common and wider metadata reference (Annex 2).

While the long-term objective for the Catalog of Data Sources is to move towards internet accessibility there are yet other options – temporary or permanent – that could correspond to the very specific conditions and institutional set up of data and information generation, exchange, and use in Egypt. This section of the report identifies various options and steps for maintaining and updating the catalog.

As stated earlier, potential users comprise a wide scope list of decision-makers at various sector and levels of planning, monitoring, and management of environment and development. It includes the governmental sector, the private sector, consultant offices, research institutes, and students. Accordingly, two main factors have to be considered when choosing an option to maintain the catalog. The first factor involves the choice between maintaining the data by one institution versus multiple institutions. This factor requires considering resources, commitment, responsibilities, cooperation and coordination between various institutions. The second factor involves the mode of access to the data and whether it is adequate for all users or not.

2.2 Assessment of Alternative Dissemination Options

Creating and maintaining a hardcopy catalog of information resources related to economic development and natural resource protection of the Red Sea coast might be easy to produce and familiar to users. However, it is difficult to update and there is a need to replace and add pages for new entries and revisions of old entries in the copies of end users on a regular basis, or resorting to frequent re-publishing even with minor changes. This is not an efficient process for maintaining an up-to-date catalog.

Alternatives to a hardcopy catalog include production of a CD-ROM or Internet-based services. An important advantage of both these options is the ability to use computer searches to identify and sort information source. Information in the presented catalog is sorted by sectors. However, the digital metadata are expected to be retrieved through various paths (sector, geographic boundary, source, etc.). As digital records the entries can be simultaneously filed under an unlimited number of themes, thus greatly facilitating information searches. CD-ROM format still present the problem of regular updates.

Publishing the metadata information on the Internet is the long-term recommendation of this study. It is considered the most useful option for maintaining the information after it has been created. The information can then be linked to original data sources and databases. However, the format of the already created databases has to be taken into consideration when creating the metadata format. Transition to an Internet- accessible format can be made through a series of steps. Perhaps the first and simplest step is for institutions to use common library methods and metadata standards to give the public (or approved users), with Internet access, summaries of the institutions' information resources. The next step is to make selected documents and data sets downloadable via the Internet. Many institutions already do this when they create PDF documents from reports and place these on their Web site. This approach is useful for static data sets and documents and the technology for this step is a fairly simple one. The policy decision is sometimes more difficult.

The technology to access and search databases on-line is considerably more complicated, but still possible for most agencies. This approach allows users to access information in a periodically updated (synchronic) database. All or part of a database can be made accessible. For example, public Internet access to geo-referenced information about endangered species might be limited, whereas pictures and general descriptions of these species could be made available to the public. For examples of biodiversity databases on the Internet see WWW site of the Association for Biodiversity Information, their product "NatureServe," and links to the sites of their associates in the Network of Conservation Data Centers and Natural Heritage Programs. The on-line access to databases can be taken a step further by including GIS tools.

2.3 Assessment of Alternative Institutional Arrangements

Maintaining and updating the catalog could be undertaken by a single institution or through the collaborative effort of a group of institutions. Each alternative has its merits and negative aspects. The following is an overall assessment of the various potential options.

Single institution

This requires one institution to prepare and update records for all data sources, as a proactive program to keep up with new and changing information sources.

Advantages of maintaining the catalog from a single site are consistency of entries and very few personnel needed to be trained to maintain standard entries. However, the disadvantages are significant. A catalog produced by a single institution will be skeletal at best and attempts to provide increasingly detailed metadata will likely result in increasingly inaccurate information.

Multiple institutions

This option has the advantage of distributing the responsibility for maintaining entries to the most qualified institutions. Under this scenario, whoever creates a data source would, in the ideal situation, create the catalog entry for their data source(s), presumably according to a standard agreed upon format. This has the advantage that those who know their data will do the best job of describing it, resulting in more detailed and accurate metadata. However, there are significant disadvantages to having scores of entities creating entries for a catalog. Each individual entity must acquire the expertise to use the metadata standards and apply them to their catalog entries. Those who receive training and support are mostly likely to get it right, though not always on the first attempt. Others without training will try and all too often create inaccurate or non-standard entries. And still others will not even attempt to create entries for their data sources, leaving gaps in the catalog. Still, a central node is required to provide training and quality control.

A variation of this option would involve a limited number of institutions, with each focused on managing the catalog entries for specific themes. For example, the Nature Protection Department might manage the entries for biological resources and protected areas. All sections of the catalog need not progress at the same pace. Themes can be added as willing sponsors are identified. As with the first option, these variations require a central unit to train people creating and updating records, to control the overall quality of the product and to manage the publication or dissemination process.

As the option of having digital format seems the most appropriate to facilitate expanded dissemination, selection between different options will be confined within “centralized” or “distributed” production. Table 7.1 summarizes the cons and pros of these two alternative options. Based on this discussion of the positive and negative aspects of the two options and considering the current institutional context, capacity potentials and limitations, etc., the option of centralized production appears as more fitting and implies less risky implementation.

Table 2.1 Options for Maintaining the Catalog

Option	Pros	Cons
Digital Format Centralized Production	• Easy for central staff to produce consistent entries • Digital formatted entries easy to search, making the product far more useful than a hardcopy report • Easy and inexpensive to update entire catalog periodically as CD-ROM version or continuously as Internet-accessible version • Internet version is always available to all potential users, even before they are aware of their needs – no need to identify users	• Difficult for central staff to understand content and produce adequate summaries of information of all types • CD-ROM version requires distribution of periodic updates • CD-ROM version requires that central staff produce and maintain mailing list of expected users • CD-ROM version – some potential users may not be identified and will not have the catalog • Internet version requires appropriate technology • Internet version requires that user understand and be familiar with Internet technology • Internet version requires publicity to make potential users aware that the product exists
Digital Format Distributed Production	• Entries produced by authoring institutions are potentially high quality • Digital formatted entries easy to search, making the product far more useful than a hardcopy report • Easy and inexpensive to update entire catalog periodically as CD-ROM version or continuously as Internet accessible version • Internet version is always available to all potential users, even before they are aware of their needs – no need to identify users	• Requires adoption of metadata standard by all participants • Requires that many people be trained to use standard metadata format • Some data producers may decline to participate so these sources potentially not represented in the catalog • Requires that central staff review the entries for quality assurance • CD-ROM version requires distribution of periodic updates • The CD-ROM version requires central staff produce and maintain mailing list of expected users • The CD-ROM version – some potential users may not be identified and will not have the catalog • Internet version requires appropriate technology • Internet version requires user understand and be familiar with Internet technology • Internet version requires publicity to make potential users aware that the product exists

SOURCES OF ECOLOGICAL DATA

SECTOR:	Ecological
SUB SECTOR:	Biodiversity
TITLE:	National Biodiversity Unit (NBU) Databases
CITATION:	National Biodiversity database. (2001). National Biodiversity Unit, Nature Protection Department. EEAA. 24 March 2001. unpublished database.
LANGUAGE:	English
FORMAT:	The database is in MS Access and is supported by an on-line users-manual.
LOCATION:	EEAA, Department of Nature Protection, National Biodiversity Unit
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The NBU has a database focusing on species. It includes taxonomy, distribution, conservation status (following IUCN) habitat, economic uses, and references. They have records for 12,500 species. The system includes information about virus, bacteria, coral, vertebrates and plants
METHODOLOGY:	Not available
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	1998
CONTACT INFORMATION:	National Biodiversity Unit Address: 23A Ismail Mohamed St., Zamalek Cairo Tel: 7356777 / 7355962 Fax:
CATALOG UPDATE:	24/3/2001

SECTOR:	Ecological
SUB SECTOR:	Biodiversity
TITLE:	The Documentation of Egypt's Natural Heritage
CITATION:	National Center for Documentation of Cultural and Natural Heritage. (2000). The Documentation of Egypt's Natural Heritage 3 April 2001. Unpublished database.
LANGUAGE:	English
FORMAT:	Digital
LOCATION:	National Center for Documentation of Cultural and Natural Heritage, Ministry of Transportation and Communications .
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The project is creating a database that includes data on species, habitats and the protectorates. The database will include detailed information about the flora; fauna, geological formations and cultural sites related to specific sites or protected areas.
METHODOLOGY:	Not available
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	Current
CONTACT INFORMATION:	Dr.Fathi Saleh Address: 10 El Kamel Mohamed Street, Zamalek Tel: 7355739 Fax:-
CATALOG UPDATE:	3/4/2001

SECTOR:	Ecological
SUB SECTOR:	Biodiversity
TITLE:	Egypt country Study on Biological Diversity
CITATION:	EEAA/ Department of Nature Protectorates / National Biodiversity Unit NBU. (1997). Egypt country Study on Biological Diversity.
LANGUAGE:	Separate English and Arabic reports
FORMAT:	Hardcopy
LOCATION:	Library of the Egyptian Environmental Affairs Agency
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report is an inventory of the Egyptian Fauna and Flora documenting the variety of species and their numbers.
METHODOLOGY:	The report is based on reviewing relevant literature.
SPATIAL BOUNDARY:	All Egypt
TEMPORAL BOUNDARY:	1997
CONTACT INFORMATION:	EEAA Address: 30 Misr Helwan El Zyrae Rd. Maadi Cairo Egypt Tel: 202-5256452 Fax: 202-5256490
CATALOG UPDATE:	13/2/2001

SECTOR:	Ecological / Physical / Socio-Economic
SUB SECTOR:	Biodiversity
TITLE:	Egyptian Red Sea Coastal and Marine Resource Management Project
CITATION:	Global Environmental Facility (GEF), World Bank. (EEAA, TDA, Red Sea Governorate). (1998). Egyptian Red Sea Coastal and Marine Resource Management project
LANGUAGE:	English
FORMAT:	Hardcopy, and GIS and Excel files for attribute data
LOCATION:	Tourism Development Authority
ACCESSIBILITY:	Limited

DESCRIPTION

CONTENT:	The project produced an inventory and database of the coastal and marine resources for the South Red Sea coast of Egypt. This data covers the physical environment; coastal and marine ecosystems; tourism and recreation, marine and coastal land use; coastal and marine pollution and impacts.
METHODOLOGY:	The project divided the coastal zone into 7 sectors from north of Hurghada to Shalateen, conducted field visits, reviewed literature, maps, satellite images, and cooperated with experts of the TDA, EEAA and the Red Sea Govern orate officials.
SPATIAL BOUNDARY:	The Egyptian side of the Red Sea coast, from 40 Km north of Hurghada to latitude 220 N and including the off shore islands
TEMPORAL BOUNDARY:	1998
CONTACT INFORMATION:	Tourism Development Authority Eng. Ahmed Abdel Aziz Address: Nile Tower, Mourad St. Giza Tel: 5703491 Fax:
CATALOG UPDATE:	12/2/2001

SECTOR:	Ecological
SUB SECTOR:	Biodiversity / Flora
TITLE:	Egyptian Flora Project
CITATION:	Egyptian Flora database. (2001). Botany Department. Faculty of Science. Ain Shams University. 20 February 2001. unpublished database.
LANGUAGE:	English and Arabic
FORMAT:	Database in FoxPro.
LOCATION:	Botany Department. Faculty of Science. Ain Shams University.
ACCESSIBILITY:	Mostly limited to students and faculty

DESCRIPTION

CONTENT:	The database covers 2439 terrestrial taxa. Distribution is reported by small-scale units, such as Red Sea Governorate, including a separate unit for Gebel Elba. They have some ecological categories, but these were not regularly completed.
METHODOLOGY:	The data is from published sources.
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	Current
CONTACT INFORMATION:	Dr. Sayed Farag Khalifa, Professor of Botany, Director of Multimedia Center; Faculty of Science, Sin Shams University. Tel: 4821633 Fax: 6842123
CATALOG UPDATE:	15/3/2001

SECTOR:	Ecological
SUB SECTOR:	Biodiversity / Fauna
TITLE:	Guide to Mammals of Nature Protectorates in Egypt
CITATION:	Egyptian Environmental Affairs Agency, Department of Natural Protectorates. (1995). Guide to Mammals of Natural protectorates in Egypt. (By Kamal Wasif).
LANGUAGE:	Separate English and Arabic reports
FORMAT:	Hardcopy
LOCATION:	Library of the Egyptian Environmental Affairs Agency
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report classifies mammals and presents the distribution of each species in Egypt. The report displays coloured pictures of some species. The report includes indices of the species name in Arabic, Latin and English.
METHODOLOGY:	The report is based on reviewing relevant literature and conducting field visits.
SPATIAL BOUNDARY:	All Egypt
TEMPORAL BOUNDARY:	1995
CONTACT INFORMATION:	EEAA Address: 30 Misr Helwan El Zyrae Rd. Maadi Cairo Egypt Tel: 202-5256452 Fax: 202-5256490
CATALOG UPDATE:	20/2/2001

SECTOR:	Ecological
SUB SECTOR:	Biodiversity / Fauna
TITLE:	Birds known to occur in Egypt
CITATION:	EEAA/ Department of Nature Protectorates. (1997). Birds known to occur in Egypt. (By Mohamed E. Tharwat)
LANGUAGE:	Separate Arabic and English reports
FORMAT:	Hard Copy
LOCATION:	Library of the Egyptian Environmental Affairs Agency
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report describes birds in Egypt, their distribution maps and colored pictures of each species. The report includes indices of the species name in Arabic, Latin and English.
METHODOLOGY:	The report is based on reviewing relevant literature and field surveys.
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	1997
CONTACT INFORMATION:	EEAA Address: 30 Misr Helwan El Zyrae Rd. Maadi Cairo Egypt Tel: 202-5256452 Fax: 202-5256490
CATALOG UPDATE:	13/2/2001

SECTOR:	Ecological
SUB SECTOR:	Biodiversity
TITLE:	Amphibians and reptiles in Egypt
CITATION:	EEAA/ Department of Nature Protectorates. (1997). Amphibians and Reptiles in Egypt.(By Mostafa A. Saleh).
LANGUAGE:	Separate English and Arabic reports
FORMAT:	Hard Copy
LOCATION:	Library of the Egyptian Environmental Affairs Agency
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report describes reptiles and amphibians in Egypt and the distribution of each species in Egypt. The report includes distribution maps, colored pictures, and indices of the species' name in Arabic, Latin and English.
METHODOLOGY:	The report is based on reviewing relevant literature and field surveys.
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	1997
CONTACT INFORMATION:	EEAA Address:30 Misr Helwan El Zyrae Rd. Maadi Cairo Egypt Tel: 202-5256452 Fax: 202-5256490
CATALOG UPDATE:	13/2/2001

SECTOR:	Ecological
SUB SECTOR:	Biodiversity / Fauna
TITLE:	Fishbase, A global Information System on Fishes
CITATION:	Froese, R. and D. Pauly. Editors. (2001). Fishbase. Worldwide Web electronic publication, www.fishbase.org, 28 march 2001
LANGUAGE:	English and French
FORMAT:	Internet accessible database
LOCATION:	www.fishbase.org
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	A relational database on 25,000 species of fish worldwide includes data on the biology and distribution of each species. A sample search for reef-associated fishes of Egypt found 354 species, with information and pictures.
METHODOLOGY:	Not available
SPATIAL BOUNDARY:	Global
TEMPORAL BOUNDARY:	Current
CONTACT INFORMATION:	Internet site
CATALOG UPDATE:	2/4/2001

SECTOR:	Ecological
SUB SECTOR:	Marine
TITLE:	Southern and Central Red Sea Rapid Underwater Assessment
CITATION:	Environmentally Sustainable Tourism (EST) project. (EEAA, Red Sea Governorate, TDA). Southern and Central Red Sea Rapid Underwater Assessment
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	USAID Library
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The document provides the data from Rapid Ecological Assessment of coral reefs between Hurghada and Ras Benas. The data describes distribution of reef types and give an overview of reef status and health coral, fish and invertebrate resources.
METHODOLOGY:	A total of 42 sites, both offshore and near-shore were sampled using Rapid Underwater Assessment. Parallel to the RUA, samples for a Detailed Ecological Assessment (DEA) of the reefs ecology were taken.
SPATIAL BOUNDARY:	Southern and Central Red Sea
TEMPORAL BOUNDARY:	Not available
CONTACT INFORMATION:	USAID Library Address: USAID office building, Block 1A of Ellasilky St., New Maadi Tel: 5227001/2 Fax:
CATALOG UPDATE:	20/2/2001

SECTOR:	Ecological
SUB SECTOR:	Marine
TITLE:	General Preliminary Contribution to the Plankton of Egypt
CITATION:	M. Salah and G. Tamasl. (1970). General Preliminary Contribution to the Plankton of Egypt. Bulletin of the Institute of Oceanography and Fisheries, 1: 305-338
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	National Institute of Oceanography and Fisheries – Alexandria
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	A list of plankton of Egyptian waters. Includes tables of distribution.
METHODOLOGY:	Samples were collected using plankton nets.
SPATIAL BOUNDARY:	Mederteranian Sea, Suez Canal, Bitter Lakes, Gulf of Suez, Red Sea, Delta Lakes, karoun lakes and Nile river.
TEMPORAL BOUNDARY:	1965
CONTACT INFORMATION:	National Institute of Oceanography and Fisheries – Alexandria Address: Tel: 03-4801553 Fax:
CATALOG UPDATE:	27/3/2001

SECTOR:	Ecological
SUB SECTOR:	Marine
TITLE:	Seasonal variations in the chemical constituents of some marine algae collected from different sites coast of Egypt
CITATION:	El Naggar. (1994). Seasonal variations in the chemical constituents of some marine algae collected from different sites coast of Egypt. Journal of Agricultural Sciences. 19: 4353-4368
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	Mansoura University, Faculty of Agricultural & Academy of Scientific Research and Technology
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The results of the seasonal analysis of marine plants and algae are described.
METHODOLOGY:	Marine plants and algae were collected from different sites and analyzed seasonally for their content of ash, crude fiber, protein, lipids, carbohydrate and keto acids over a period of one year
SPATIAL BOUNDARY:	Red Sea and Mediterranean
TEMPORAL BOUNDARY:	1994
CONTACT INFORMATION:	Academy of Scientific Research and Technology Address: 101 El Kasr El Ainyi St., Cairo Tel.: 7957253/7964421 Fax: 7947807
CATALOG UPDATE:	20/3/2001

SECTOR: Ecological

SUB SECTOR: Marine

TITLE: Ecology and Distribution of reef building corals at some locations of the Red Sea Egypt

CITATION: Ammar, Mohamed Shukri Ahmad. (1996). Ecology and Distribution of reef building corals at some locations of the Red Sea Egypt, Thesis Ph.D. Cairo University. Faculty of Science.

LANGUAGE: English

FORMAT: Hardcopy

LOCATION: Cairo University, Faculty of science & Academy of Scientific Research and Technology

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: Describes the reef-building corals in terms of zonation and abundance at three locations of the Read Sea, Egypt: Sharm El-Sheikh (Station 1), Ras Zaafrana (Station2) and Ras Abou-Darag (station3). Other organisms such as soft corals, gorgonians, sponges and sea urchins are also reported. The possible ecological factors affecting the distribution of corals such as temperature, salinity, hydrocarbon pollution, sedimentation rate, particulate matter transparency and dissolved oxygen were also measured at the studied locations. Species diversity was calculated for each site.

METHODOLOGY: The skeletal densities of different coral growth forms (branching, massive and foliacious) collected from 2-20 m depth at Ras Abou-Gallum, Gulf of Aqaba, were calculated. Colonies of branching corals were analyzed both at the base and at the tip of the colony. The skeletal densities were also compared between species collected from both polluted and non-polluted site.

SPATIAL BOUNDARY: Red Sea, Gulf of Aqaba

TEMPORAL BOUNDARY: 1996

CONTACT INFORMATION: Academy of Scientific Research and Technology
Address: 101 El Kasr El Ainyi St., Cairo
Tel.: 7957253/7964421
Fax: 7947807

CATALOG UPDATE: 20/3/2001

SECTOR:	Ecological
SUB SECTOR:	Marine
TITLE:	Red Sea – Fascinating Underwater World
CITATION:	Samira A. Salem & Silvia Bladian. Red Sea – Fascinating Underwater World.
LANGUAGE:	Separate English and Arabic books
FORMAT:	Hardcopy
LOCATION:	Faculty of Science, Cairo University Tel: 5727022 / 5727213
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The book displays 200 colored photos of fish and corals with summary comment on each species.
METHODOLOGY:	Not available
SPATIAL BOUNDARY:	Red Sea
TEMPORAL BOUNDARY:	Not available
CONTACT INFORMATION:	Faculty of Science, Cairo University Dr. Samira Ahmad Salem Address: Tel: 5727022 / 5727213 Fax:
CATALOG UPDATE:	18/3/2001

SECTOR:	Ecological
SUB SECTOR:	Protected Areas
TITLE:	Towards Establishing a Network Plan for the Protected Areas in Egypt
CITATION:	Egyptian Environmental Affairs Agency/ Nature conservation sector.(1998). Towards Establishing a Network Plan for the Protected Areas in Egypt. (By Sherif Baha El Din).
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	EEAA, Department of Nature Protection, National Biodiversity Unit
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report reviews the network of protectorates in Egypt and identifies and assesses potential additional sites to be protected. The report includes maps illustrating the boundaries of each site. The landscape, biodiversity and archaeology and habitats of each protectorate are summarized.
METHODOLOGY:	Field examinations, reviewing relevant literature and expert opinion.
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	1998
CONTACT INFORMATION:	National Biodiversity Unit Address: 23A Ismail Mohamed St., Zamalek Cairo Tel: 7356777 / 7355962 Fax:
CATALOG UPDATE:	13/2/2001

SECTOR:	Ecological
SUB SECTOR:	Protected Areas
TITLE:	Nature protectorates in Egypt
CITATION:	Egyptian Environmental Affairs Agency (EEAA), Department of Nature Protectorates. (1995). Natural protectorates in Egypt.
LANGUAGE:	Separate Arabic and English reports
FORMAT:	Hard Copy
LOCATION:	Department of Nature Protectorates. National Biodiversity Unit (NBU)
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report provides an overview of every protectorate including the ecological life, geology, natural scenery and sensitive areas. The report identifies regional, international and national laws, regulations and agreements related to protection of nature in Egypt.
METHODOLOGY:	The report is based on literature review together with the contribution of a number of experts and protectorate employees.
SPATIAL BOUNDARY:	Nature Protectorates in Egypt
TEMPORAL BOUNDARY:	1995
CONTACT INFORMATION:	National Biodiversity Unit (NBU) Address: 23A Ismail Mohamed St., Zamalek Cairo Tel: 7356777 / 7355962 Fax:
CATALOG UPDATE:	21/2/2001

SECTOR: Ecological

SUB SECTOR: Methodology

TITLE: Survey Manual for Tropical Marine Resources

CITATION: English, S.; Wilkinson, C. and Bakes, V. (1994). Survey Manual for Tropical Marine Resources. Australian Institute of Marine Science, Townsville, pp.368

LANGUAGE: English

FORMAT: Hardcopy

LOCATION: General Libraries

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The book describes standardized methodologies for systematic survey of marine resources including coral reefs, mangroves, soft bottom communities, sea grass communities, and coastal fisheries. It also provides guidelines for sampling, design and monitoring in addition to data base design

METHODOLOGY: This manual is the product of input from many researchers who have participated in the ASEAN-Australia Living Coastal Resources project. The foundation of the sampling program undertaken by this project was a series of workshops held at the Australian Institute of Marine Sciences in 1985.

SPATIAL BOUNDARY: Marine resources

TEMPORAL BOUNDARY: 1994

CONTACT INFORMATION: Australian Institute of Marine Science
Address: P.M.P No. 3 Townsville Mail Centre, Australia 4810
Tel:
Fax:

CATALOG UPDATE: 3/4/2001

SOURCES OF PHYSICAL DATA

SECTOR:	Physical / Ecological / Socio-Economic
SUB SECTOR:	Topography / Land Classification / Infrastructure
TITLE:	Red Sea Governorate GIS Unit Satellite Images value added products
CITATION:	Not applicable
LANGUAGE:	English
FORMAT:	Hardcopy / Some of the products may be distributed as GIS data sets
LOCATION:	Red Sea Governorate GIS Unit, Hughada
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:

The GIS Unit can provide the following value added products:
Digital maps (scale 1:25,000) for the Red Sea Coast
Land use maps and Database
Digital Mosaic maps (scale 1:50,000) for the Red sea Governorate
Red Sea Governorate City Limits
Map showing the TDA development projects
Coastal changes due to development projects.

METHODOLOGY:	Satellite images processing and GIS technologies
SPATIAL BOUNDARY:	Red Sea Governorate
TEMPORAL BOUNDARY:	Historic and Current
CONTACT INFORMATION:	Red Sea Governirate GIS Unit at Hurghada Address: Red Sea Governirate building Tel: 065 - 546483 Fax:
CATALOG UPDATE:	18/3/2001

SECTOR:	Physical / Socio-Economic
SUB SECTOR:	Topography / Infrastructure
TITLE:	Topographical Maps
CITATION:	Not applicable
LANGUAGE:	Arabic
FORMAT:	Hardcopy
LOCATION:	Civil Survey Authority
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The southern Red Sea study area is covered with nearly 40 maps at a scale of 1:50,000; 10 maps at a scale of 1:100,000; 3 maps at a scale of 1:500,000. The maps show the roads, towns, archaeological sites, reefs, elevations, etc..
METHODOLOGY:	Not available
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	1994
CONTACT INFORMATION:	Civil Survey Authority Address: 1 Abdel salam Aref St. Giza-Egypt Tel: 7484830 / 7484853 Fax:
CATALOG UPDATE:	15/2/2001

SECTOR: Physical

SUB SECTOR: Topography / Geology

TITLE: Satellite Atlas of Egypt

CITATION: National Authority for Remote Sensing and Space Sciences. (1990). Satellite Atlas of Egypt.

LANGUAGE: English / Arabic

FORMAT: Arabic with figures labeled in English titles.

LOCATION: National Authority for Remote Sensing and Space Sciences

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The southern Red Sea study area is covered in the Atlas by 9 satellite images at a scale of 1: 250,000. The 9 images cover the geology, topography, geomorphology, drainage networks, coral reefs and minerals present in the study area.

METHODOLOGY: The photomaps were produced by processing digital data acquired with the land sate satellite (MSS). Enhancement, contrast stretching, radiometric and geometric corrections and photographic processing have been implemented by the Egyptian Remote Sensing Center, as per the agreement between the Egyptian Academy of Scientific Research and Technology and USAID in Cairo.

SPATIAL BOUNDARY: All Egypt

TEMPORAL BOUNDARY: 1990

CONTACT INFORMATION: Academy of Scientific Research and Technology
Address: 101 El Kasr El Ainyi St., Cairo
Tel.: 7957253/7964421
Fax: 7947807

CATALOG UPDATE: 20/2/2001

SECTOR:	Physical / Ecological / Socio-Economic
SUB SECTOR:	Topography / Biodiversity / Infrastructure /
TITLE:	National Oil Spill Contingency Plan (NOSCP) - Database
CITATION:	National Oil Spill Contingency Plan (NOSCP) – Database. (2001). Egyptian Environmental Affairs Agency. Unpublished database
LANGUAGE:	English
FORMAT:	GIS database (Arc Info / Arc View)
LOCATION:	Egyptian Environmental Affairs Agency
ACCESSIBILITY:	Limited Accessibility

DESCRIPTION

CONTENT:	A GIS database including: Pollution data as far south as Marsa Alam Beach profiles in 5 km segments for the whole coast Bird sites; Coral reefs; Dugongs; Protected areas; Shallow reefs; spawning and nursery areas of fish; turtles. Beaches mainland and Red Sea islands Buildup coast including coastline; main canals and drains etc.. Depth contour and diving sites Equipment centers Oil platforms Roads, Railways and airports
METHODOLOGY:	Most data aggregated from other agencies.
SPATIAL BOUNDARY:	Red Sea & Mediterranean
TEMPORAL BOUNDARY:	1997
CONTACT INFORMATION:	Mohamed A. Borhan (NOSCP) Coordinator Tel 5256483 Fax
CATALOG UPDATE:	24/3/2001

SECTOR:	Physical / Socio-Economic
SUB SECTOR:	Topography / Climate / Infrastructure
TITLE:	Hazard Assessment and Mitigation Measures of Flash Flooding on the Red Sea Towns, Egypt
CITATION:	National Authority for Remote Sensing and Space Sciences. (1997). Hazard Assessment and Mitigation Measures of Flash Flooding on the Red Sea Towns, Report
LANGUAGE:	Arabic – figures labeled in English
FORMAT:	Hardcopy. Maps in the report are available as an AutoCAD format compatible with a GIS database.
LOCATION:	National Authority for Remote Sensing and Space Sciences
ACCESSIBILITY:	Limited

DESCRIPTION

CONTENT:	The report describes the morphometric parameters of the hydrographic basins and their hydrological significance, delineates the geologic setting and its relation to the surface drainage system, defines the flash flood potential of the basins, distinguishes the land use sites, suggests simple indigenous engineering structures to mitigate flood impacts illustrated with maps and photos.
METHODOLOGY:	Land sat imagery, remote sensing techniques and computer assisted routines were used.
SPATIAL BOUNDARY:	Ras Gharib to Halaib
TEMPORAL BOUNDARY:	1997
CONTACT INFORMATION:	National Authority for Remote Sensing and Space Sciences. Address:23 Joseph Brows Tito st. El Nozha El Gedida, Cairo, Egypt Tel: 2643899/2 Fax: 29643858/7
CATALOG UPDATE:	4/2/2001

SECTOR:	Physical / Ecological
SUB SECTOR:	Climate / Ecology
TITLE:	NOAA Satellite derived products
CITATION:	Not applicable
LANGUAGE:	English & Arabic
FORMAT:	Paper Maps – Digital value added products
LOCATION:	Desert Research Center – Ministry of Agriculture
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The maps display, in 1.1 Km ground resolution, the sea surface temperature, land surface temperature (max.& min.) and vegetation index (NDVI).
METHODOLOGY:	National Oceanographic and Atmospheric Administration (NOAA) images are received through HRPT software. The images are processed using Shark software of ESA. Also different programs are used to determine NDVI and monitoring regional features, such as draught and desertification.
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	Current
CONTACT INFORMATION:	Dr. Ahmad Abdel salam Tel: 2435519 Fax:
CATALOG UPDATE:	19/3/2001

SECTOR:	Physical
SUB SECTOR:	Geology
TITLE:	Boulder-Coastline Extractor
CITATION:	National Geophysical Data Center NGDC), National Oceanic and Atmospheric Administration (NOAA), 2001, Coastline Extractor. Worldwide Web electronic publication. URL: http://rimmer.ngdc.noaa.gov/coast/getcoast.htm, 28 March 2001
LANGUAGE:	English
FORMAT:	Internet
LOCATION:	URL: http://rimmer.ngdc.noaa.gov/coast/getcoast.htm
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	Produce coastline segments as digital files that came to use as GIS such as Arc/Info.
METHODOLOGY:	Not available
SPATIAL BOUNDARY:	Global
TEMPORAL BOUNDARY:	Current
CONTACT INFORMATION:	See Internet site
CATALOG UPDATE:	23 /1/2001

SECTOR:	Physical
SUB SECTOR:	Geology
TITLE:	Mineral sediments in Gabal Elba
CITATION:	National Authority for Remote Sensing and Space Science.1997. Mineral sediments in Gabal Elba
LANGUAGE:	Arabic with figures in English titles.
FORMAT:	Hardcopy, maps in the report are available as an AutoCAD format compatible with a GIS database.
LOCATION:	National Authority for Remote Sensing and Space Sciences & Academy of Scientific Research and Technology
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report addresses the mineral sediments in the area.
METHODOLOGY:	Land sat imagery, remote sensing techniques and computer assisted routines were used.
SPATIAL BOUNDARY:	Gabal Elba, South of Eastern Desert
TEMPORAL BOUNDARY:	1997
CONTACT INFORMATION:	National Authority for Remote Sensing and Space Sciences Address:23 Joseph Brows Tito st. El Nozha El Gedida, Cairo, Egypt Tel: 2643899/2 Fax: 29643858/7
CATALOG UPDATE:	12/2/2001

SECTOR: Physical / Socio-Economic

SUB SECTOR: Geology

TITLE: Conoco Coral - Geological Maps

CITATION: Not applicable

LANGUAGE: English

FORMAT: Hardcopy

LOCATION: General Petroleum Corporation

ACCESSIBILITY: Not available

DESCRIPTION

CONTENT: There are 3 geological maps in scale 1:500,000 covering the southern Red Sea study area. Geological features shown include sand dunes; wadi deposits; shore line; Miocene trachyte plugs and sheets; tertiary volcanics; basaltic dikes; sills ...etc. The maps also show infrastructure features such as roads, administrative boundaries, cities, railway, power transmition lines, permanent and temporary settlements..etc

METHODOLOGY: Reviewing relevant images and maps together with digital image processing of computer enhanced digital land sat MSS image mosaic geometrically controlled.

SPATIAL BOUNDARY: Egypt

TEMPORAL BOUNDARY: 1987

CONTACT INFORMATION: General Petroleum Corporation
Address:
Tel:
Fax:

CATALOG UPDATE: 13/3/2001

SECTOR:	Physical
SUB SECTOR:	Geology
TITLE:	Lithostratigraphy and petrology of the Pliocene Pleistocene sediments along the Red Sea coastal area.
CITATION:	Hassan, M.M et al. (1994). Lithostratigraphy and petrology of the Pliocene Pleistocene sediments along the Red Sea coastal area. Al Azhar Bulletin of Science. 5: 595-616
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	Al Azhar University, Cairo. Egypt. Faculty of Science. Computer database, Academy of Scientific Research and Technology
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The study describes the Pliocene Pleistocene sediments along the Red Sea coast.
METHODOLOGY:	Samples were collected and subjected to analysis.
SPATIAL BOUNDARY:	Red Sea Coastal Area
TEMPORAL BOUNDARY:	1994
CONTACT INFORMATION:	Academy of Scientific Research and Technology Address: 101 El Kasr El Ainyi St., Cairo Tel.: 7957253/7964421 Fax: 7947807
CATALOG UPDATE:	15/3/2001

SECTOR: Physical

SUB SECTOR: Geology

TITLE: National Geophysical Data Center (NGDC) &
National Oceanic and Atmospheric Agency (NOAA) – baseline data

CITATION: National Geophysical Data Center (NGDC), National Oceanographic and Atmospheric Agency (NOAA). 2001. Baseline data. Worldwide web electronic publication. URL: http://www.ngdc.noaa.gov/. 28 march 2001

LANGUAGE: English

FORMAT: Internet

LOCATION: URL: http://www.ngdc.noaa.gov/

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The website includes data about glaciology, marine geology, geophysics, paleoclimatology, solar-terrestrial physics, and solid earth geophysics. There are also links to a World Data Center.

METHODOLOGY: Not available

SPATIAL BOUNDARY: Global

TEMPORAL BOUNDARY: current

CONTACT INFORMATION: See Internet site

CATALOG UPDATE: 23/1/2001

SECTOR:	Physical
SUB SECTOR:	Water Resources
TITLE:	Study about Halaib and Shalateen - water resources
CITATION:	National Authority for Remote Sensing and Space Sciences. (1997). Study about Halaib and Shalateen water resources. Project Report
LANGUAGE:	Arabic with figures in English titles.
FORMAT:	Hardcopy/ Maps in the report are available as an AutoCAD format compatible with a GIS database.
LOCATION:	National Authority for Remote Sensing and Space Sciences & Academy of Scientific Research and Technology
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report describes the climate of the area and the results of analysis of well water.
METHODOLOGY:	Landsat imagery, remote sensing techniques and computer assisted routines were used.
SPATIAL BOUNDARY:	Halaib and Shalateen / None
TEMPORAL BOUNDARY:	1997
CONTACT INFORMATION:	National Authority for Remote Sensing and Space Sciences Address:23 Joseph Brows Tito st. El Nozha El Gedida, Cairo, Egypt Tel: 2643899/2 Fax: 29643858/7
CATALOG UPDATE:	4/2/2001

SECTOR:	Physical
SUB SECTOR:	Water Resources / Geology
TITLE:	Geomorphologic and Environmental Studies of Shalateen Well Area
CITATION:	National Authority for Remote Sensing and Space Sciences. (1995). Geomorphologic and Environmental Studies of Shalateen Well Area. Project Report.
LANGUAGE:	Arabic with figures in English titles.
FORMAT:	Hardcopy/ Maps in the report are available as an AutoCAD format compatible with a GIS database.
LOCATION:	National Authority for Remote Sensing and Space Sciences & Academy of Scientific Research and Technology
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report deals with the geomorphological data, waste and water supply characteristics, geology and underground water of the area.
METHODOLOGY:	Land sat imagery, remote sensing techniques and computer assisted routines were used to produce maps.
SPATIAL BOUNDARY:	Shalateen Well Area
TEMPORAL BOUNDARY:	1995
CONTACT INFORMATION:	National Authority for Remote Sensing and Space Sciences Address:23 Joseph Brows Tito st. El Nozha El Gedida, Cairo, Egypt Tel: 2643899/2 Fax: 29643858/7
CATALOG UPDATE:	4/2/2001

SECTOR:	Physical
SUB SECTOR:	Water Resources / Geology
TITLE:	Geological and Geomorphological studies and their relation to the surface and underground water in Halaib and Shalateen Area
CITATION:	National Authority for Remote Sensing and Space Sciences. 1996. Geological and Geomorphological studies and their relation to the surface and underground water in Halaib and Shalateen Area. Project Report.
LANGUAGE:	Arabic with figures in English titles.
FORMAT:	Hardcopy/ Maps in the report are available as an AutoCAD format compatible with a GIS database.
LOCATION:	National Authority for Remote Sensing and Space Sciences & Academy of Scientific Research and Technology
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report focuses on the geological structure, types of rocks geological ages and underground water in the area.
METHODOLOGY:	Land sat imagery, remote sensing techniques and computer assisted routines were used.
SPATIAL BOUNDARY:	Halaib and Shalateen Area / None
TEMPORAL BOUNDARY:	1996
CONTACT INFORMATION:	National Authority for Remote Sensing and Space Sciences Address:23 Joseph Brows Tito st. El Nozha El Gedida, Cairo, Egypt Tel: 2643899/2 Fax: 29643858/7
CATALOG UPDATE:	4/2/2001

SECTOR: Physical

SUB SECTOR: Water Resources

TITLE: Groundwater supplies in Safaga area, Red Sea Coast, A.R.E

CITATION: Abdel- Baqi, A.A. (1996). Groundwater supplies in Safaga area, Red Sea Coast. Menia Science Bulletin: Geology. 9(1): 49-70

LANGUAGE: English

FORMAT: Hardcopy

LOCATION: Menia Univ. Egypt. Fac. of Science.
Computer database, Academy of Scientific Research and Technology

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The study describes the results of the assessment of the groundwater in and near Safaga.

METHODOLOGY: The study included six wadis where sixteen water points were hydrogeologically and hydrochemically investigated.

SPATIAL BOUNDARY: Safaga

TEMPORAL BOUNDARY: 1996

CONTACT INFORMATION: Academy of Scientific Research and Technology
Address: 101 El Kasr El Ainyi St., Cairo
Tel.: 7957253/7964421
Fax: 7947807

CATALOG UPDATE: 15/3/2001

SECTOR: Physical / Ecological

SUB SECTOR: Oceanography

TITLE: Coastal Water Monitoring Program

CITATION: Not applicable

LANGUAGE: English

FORMAT: Hardcopy

LOCATION: EEAA - EIMP office

ACCESSIBILITY: Not available

DESCRIPTION

CONTENT: Each annual report presents the results of the whole sampling campaigns carried out during the year. The following parameters were measured; visual observations (weather conditions, oil pollution and sewage impact...etc), hydrographical conditions (water temperature, dissolved oxygen, salinity and pH), bacteriological parameters (total coliform, E. coli and streptococci bacteria), eutrophication parameters (nitrate, ammonium, total suspended mater...etc)

METHODOLOGY: Monitoring is carried out six times a year on a bimonthly basis on a total of 39 stations in the Gulf of Suez (13), Red Sea (15), and Gulf of Aqaba (11). All methods are carried out according to international standards.

SPATIAL BOUNDARY: Gulf of Suez, Gulf of Aqaba, Red Sea,

TEMPORAL BOUNDARY: Annual Report

CONTACT INFORMATION: EIMP office:
Dr. Ahmad Abouel Soud
Address: 30 Misr Helwan El Zyrae Rd. Maadi Cairo Egypt
Tel: 202-5256442 / 7
Fax: 202-5256467

CATALOG UPDATE: 13/3/2001

SECTOR:	Physical
SUB SECTOR:	Oceanography / Climate
TITLE:	Red Sea and Gulf of Aden Pilot
CITATION:	Hydrographic Department Admiralty. (1944). Red Sea and Gulf of Aden Pilot, Ninth edition. Percy, Lund Humphries & Co. LTD. London.
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	Department of Oceanography, Faculty of Science, Alexandria University.
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	A complete list of the sailing directions, charts and other works published by the hydrographic department of the admiralty together with a list of agents for their sale.
METHODOLOGY:	Old techniques of metrological measurements.
SPATIAL BOUNDARY:	Red Sea and Gulf of Aden.
TEMPORAL BOUNDARY:	1944
CONTACT INFORMATION:	Faculty of Science, Alexandria University Address: Tel: 03/4925879 Fax:
CATALOG UPDATE:	27/3/2001

SECTOR: Physical

SUB SECTOR: Meteorology

TITLE: Climate Atlas of Egypt

CITATION: Ministry of Transport and Communications, Egyptian Meteorological Authority. (1996). Climate Atlas of Egypt. Civil Survey Authority.

LANGUAGE: Arabic

FORMAT: Hardcopy

LOCATION: Egyptian Meteorological Authority

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The Atlas uses maps illustrating the monthly mean average temperature, rainfall, relative humidity, sunrise, atmospheric pressure, wind speed and direction and the vertical distribution of ozone.

METHODOLOGY: The Atlas is based on data from weather stations. Two stations lie in the area from Safaga to Halaib, these are Al Quseir and Ras Binas.

SPATIAL BOUNDARY: Egypt

TEMPORAL BOUNDARY: 1996

CONTACT INFORMATION: Egyptian Meteorological Authority
Address: al Khalifa Al Maamoun St. Abbasya
Tel: 4830094 / 4830069
Fax:

CATALOG UPDATE: 19/2/2001

SECTOR: Physical / Ecological

SUB SECTOR: Oceanography / Chemistry / Biodiversity

TITLE: Monitoring of Oil Pollution in the Red Sea

CITATION: Mostafa, Yaser Mohamed Mahmoud. (1988). Monitoring of Oil Pollution in the Red Sea, Cairo University. Faculty of Science. Thesis; M.Sc.

LANGUAGE: English

FORMAT: Hardcopy

LOCATION: Cairo University. Faculty of Science & Academy of Scientific Research and Technology

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The thesis shows the results of the assessment of the rate and effect of oil pollution on the marine environment of the Red Sea coast.

METHODOLOGY: Studied were carried out on ten floating tar samples, four surface sea water samples, five different living organisms and four sediment samples.

SPATIAL BOUNDARY: Red sea

TEMPORAL BOUNDARY: 1988

CONTACT INFORMATION: Academy of Scientific Research and Technology
Address: 101 El Kasr El Ainyi St., Cairo
Tel.: 7957253/7964421
Fax: 7947807

CATALOG UPDATE: 21/3/2001

SECTOR:	Physical / Ecological
SUB SECTOR:	Land Classification
TITLE:	Integrated Development Project in Halaib and Shalateen Area
CITATION:	National Authority for Remote Sensing and Space Sciences.2000. Integrated Development Project in Halaib and Shalateen Area, Project report
LANGUAGE:	Arabic with figures in English titles.
FORMAT:	Hardcopy/ Maps in the report are available as an AutoCAD format compatible with a GIS database.
LOCATION:	National Authority for Remote Sensing and Space Sciences & Academy of Scientific Research and Technology
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	This report includes maps describing land use capability. It covers natural resources, agricultural development climate, vegetation and human infrastructure. The Haleeb/Shalateen area is assess for suitability for agricultural use.
METHODOLOGY:	The USBR 1953 system was used & also the USDA 1966 for the division of the land according to its suitability for irrigated agriculture. This system was developed by NARSS (1996), & is dependent upon the numerical analysis of the mane factors specific to land production: climate, status of natural drainage, salinity, calcium carbonates, inclination, depth, texture, predisposition & exposure to erosion.
SPATIAL BOUNDARY:	Halaib and Shalateen Area
TEMPORAL BOUNDARY:	2000
CONTACT INFORMATION:	National Authority for Remote Sensing and Space Sciences Address:23 Joseph Brows Tito st. El Nozha El Gedida, Cairo, Egypt Tel: 2643899/2 Fax: 29643858/7
CATALOG UPDATE:	26/2/2001

SECTOR:	Physical
SUB SECTOR:	Reference / Index
TITLE:	Guide for the Digital Maps of Egypt
CITATION:	GIS unit, Information and Decision Support Center, Cabinet of Ministers.(2001). Guide for the Digital Maps of Egypt
LANGUAGE:	Arabic
FORMAT:	Hardcopy
LOCATION:	GIS unit, Information and Decision Support Center, Cabinet of Ministers.
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The guide identifies the sources of digital topographical, geological and soil classification maps as well as satellite images in Egypt. The type, scale and coverage of the maps present at each source are also identified. Various maps covering the study area were identified.
METHODOLOGY:	The national information center designed a questionnaire that was distributed to all entities concerned with digital maps and satellite images production.
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	2001
CONTACT INFORMATION:	GIS unit, Information and Decision Support Center, Cabinet of Ministers Address: 1 Magless Al Shaab St. Tel: 7929292 Fax: 7929222
CATALOG UPDATE:	2/5/2001

SOURCES OF SOCIO-ECONOMIC DATA

SECTOR: Socio-Economic

SUB SECTOR: Demographics / Economics / Infrastructure

TITLE: The Central Agency for Public Mobilization and Statistics (CAPMAS) records.

CITATION: CAPMAS. (1996). Various Records

LANGUAGE: Arabic

FORMAT: Hardcopy

LOCATION: National Information Center

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The CAPMAS publishes records every ten years, concerning the population, buildings, establishments, housing, electricity, natural gas and water, transportation, education and medical services in each governorate. On the national level, the CAPMAS publishes records concerning economic fisheries, strategies for urban development, and projections of tourists spending.

METHODOLOGY: The CAPMAS records depend on field census and official reports of different ministries and corporations. The data are updated every ten years.

SPATIAL BOUNDARY: Egypt

TEMPORAL BOUNDARY: 1996

CONTACT INFORMATION: National Information Center
Address: Salah Salem St. Nasr City. Cairo
Tel: 4020574
Fax: 4024099

CATALOG UPDATE: 12/2/2001

SECTOR: Socio- Economic

SUB SECTOR: Infrastructure / Economics

TITLE: Urban Planning Development of the Red Sea Governorate

CITATION: General Organization for Physical Planning.(2000). Urban Planning Development of the Red Sea Governorate.

LANGUAGE: Arabic

FORMAT: Hardcopy while the maps in the report are available as an AutoCAD format compatible with a GIS database.

LOCATION: General Organization for Physical Planning

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The report identifies the physical characteristics, socio-economic studies, economic resources, urban structure, development indicators, urban development plan, infrastructure and public services plans in the Red Sea Governorate. The previous characteristics are discussed and illustrated with maps. The report identifies the future urban planning based on the analysis and provisions.

METHODOLOGY: A team of experts of various disciplines prepared the report based on the site visit and review of all the available literature.

SPATIAL BOUNDARY: Red Sea Governorate

TEMPORAL BOUNDARY: 2017

CONTACT INFORMATION: General Organization for Physical Planning
Address: 1 Ismail Abaza street, el kasr El Eini
Tel: 7921520
Fax:

CATALOG UPDATE: 12/2/2001

SECTOR: Socio-Economic

SUB SECTOR: Infrastructure / Demographics / Economic

TITLE: Structural Planning for the Major Red Sea Cities – Marsa Alam.

CITATION: General Organization for Physical Planning.(1996). Structural planning for the Major Red Sea Cities

LANGUAGE: Arabic

FORMAT: Hardcopy

LOCATION: General Organization for Physical Planning

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The report describes the physical, social, economic, urban and infrastructure characteristics of a Marsa Alam. The report identifies Governorate development plans illustrated with maps showing the roads, flood flash and recommended urban planning alternatives.

METHODOLOGY: A team of experts of various disciplines prepared the report. The team reviewed all the available literature and made their analysis and provisions.

SPATIAL BOUNDARY: Marsa Alam

TEMPORAL BOUNDARY: 2020

CONTACT INFORMATION: General Organization for Physical Planning
Address: 1 Ismail Abaza street, el kasr El Eini
Tel: 7921520
Fax:

CATALOG UPDATE: 12/2/2001

SECTOR:	Socio-Economic
SUB SECTOR:	Infrastructure / Demographics / Economics
TITLE:	Development and Urbanization map of Egypt
CITATION:	General Organization for Physical Planning.(1998). Development and Urbanization Map of Egypt
LANGUAGE:	Arabic
FORMAT:	Hardcopy – Digital AutoCAD / GIS Compatible
LOCATION:	General Organization for Physical Planning.
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The study identifies the physical characteristics, mineral resources, water resources, human resources, economic activities, urban status, land use, infrastructures and services in Egypt. The previous characteristics are all illustrated on maps on which the study area is included.
METHODOLOGY:	The study is based on conducting several specific studies, field visits and GIS data analysis.
SPATIAL BOUNDARY:	Egypt
TEMPORAL BOUNDARY:	1998
CONTACT INFORMATION:	General Organization for Physical Planning Address: 1 Ismail Abaza street, el kasr El Eini Tel: 7921520 Fax:
CATALOG UPDATE:	20/3/2001

SECTOR:	Socio-Economic
SUB SECTOR:	Infrastructure
TITLE:	Proposed Action Plan for Quseir
CITATION:	Environmentally Sustainable Tourism (EST) project (EEAA, TDA, Red Sea Governorate). (1997) Proposed Action Plan for Quseir
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	USAID Library
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report identifies infrastructure, super structure and public services as well as the heritage sites in the city and proposes an action plan for tourism development.
METHODOLOGY:	Field visits and relevant literature review
SPATIAL BOUNDARY:	Quseir City
TEMPORAL BOUNDARY:	1997
CONTACT INFORMATION:	USAID Library Address: USAID office building, Block 1A of Ellasilky St., New Maadi Tel: 5227001/2 Fax:
CATALOG UPDATE:	20/2/2001

SECTOR: Socio-Economic / Ecological

SUB SECTOR: Economics / Fisheries

TITLE: Fish Production Statistics.

CITATION: General Authority for Fish Resources Development. (1997). Fish Production Statistics.

LANGUAGE: Arabic

FORMAT: Hardcopy

LOCATION: General Authority for the Fish Resources Development

ACCESSIBILITY: Accessible

DESCRIPTION

CONTENT: The annual report describes the Red Sea fish commercial production during the previous ten years, and monthly production, according to source, during the edition year, including at Safaga, Al quesir, Bernis, Shalateen and Halaib.

METHODOLOGY: Not available

SPATIAL BOUNDARY: Egyptian

TEMPORAL BOUNDARY: Annual Report

CONTACT INFORMATION: General Authority for Fish Resources Development.
Address: 4 Al Tayaran St. Nasr City
Tel: 2620119
Fax:

CATALOG UPDATE: 13/3/2001

SECTOR:	Socio-Economic
SUB SECTOR:	Economics / Fisheries
TITLE:	Status of Fishery Exploration in Egyptian Marine Water
CITATION:	S. Fattouh, S.A El Enin and S. Abbas. (1991). Status of Fishery Exploration in Egyptian Marine Water. International Conference on Marine Fisheries.
LANGUAGE:	Arabic
FORMAT:	Hardcopy
LOCATION:	Department of Oceanography, Faculty of Science, Alexandria University.
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The report identifies the seasonality of marine fisheries; forecast future magnitude of catch; means of marine fisheries development; and conducts statistical analysis for estimated and actual values for fish production in both tones and values in Egyptian L.E.
METHODOLOGY:	Mathematical Equations, regression analysis and CAPMAS data were used.
SPATIAL BOUNDARY:	Egyptian waters
TEMPORAL BOUNDARY:	1969 – 2000
CONTACT INFORMATION:	Faculty of Science, Alexandria University Address: Tel: 03/4925879 Fax:
CATALOG UPDATE:	27/3/2001

SECTOR:	Socio-economic
SUB SECTOR:	Environmental Planning / Laws / Regulations
TITLE:	Environmental Guidelines for Development in the Coastal Areas
CITATION:	Egyptian Environmental Affairs Agency, Environmental Management Sector. (1996). Environmental Guidelines for Development in the Coastal Areas
LANGUAGE:	Arabic/ English
FORMAT:	Hardcopy
LOCATION:	Library of the Egyptian Environmental Affairs Agency
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	Summarizes laws and regulations relevant to the development in coastal areas. The report provides guidelines for tourism development in coastal areas specially the Red Sea Coast.
METHODOLOGY:	The report is the output of joined Egyptian and Danish expertise that reviewed relevant literature specially some provisions of environment protection prepared by TDA specially law no.4 / 1994.
SPATIAL BOUNDARY:	Coastal areas, particularly the Red Sea zone.
TEMPORAL BOUNDARY:	1996
CONTACT INFORMATION:	EEAA Address: 30 Misr Helwan El Zyrae Rd. Maadi Cairo Egypt Tel: 202-5256452 Fax: 202-5256490
CATALOG UPDATE:	12/2/2001

SECTOR:	Socio-economic
SUB SECTOR:	Environmental Planning
TITLE:	Best practices for Tourism Development centers along the Red Sea Coast
CITATION:	Tourism Development Authority. 1998. Best practices for Tourism Development centers along the Red Sea Coast
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	USAID Library
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The handbook focuses on the framework for tourism development and environmental protection, describes the physical and environmental context and the best practices to accomplish sustainable tourism development.
METHODOLOGY:	Conducted case studies and reviewed technical literature.
SPATIAL BOUNDARY:	Red Sea Coast
TEMPORAL BOUNDARY:	1998
CONTACT INFORMATION:	USAID Library Address: USAID office building, Block 1A of Ellasilky St., New Maadi Tel: 5227001/2 Fax:
CATALOG UPDATE:	4/2/2001

SECTOR:	Socio-economic
SUB SECTOR:	Coastal Zone Management
TITLE:	Sustainable Development and Land resources Management in the Coastal zones of the Red Sea
CITATION:	Mohamed A. Fawzi. Sustainable Development and Land resources Management in the Coastal zones of the Red Sea
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	Center for Environment and Development for the Arab Region and Europe (CEDARE)
ACCESSIBILITY:	Accessible
DESCRIPTION	
CONTENT:	The paper identifies and summarizes the actions taken towards efficient coastal zone Management in the Red Sea from the Egyptian perspective.
METHODOLOGY:	The author reviewed relevant literature and publications
SPATIAL BOUNDARY:	Red Sea Coastal zone
TEMPORAL BOUNDARY:	Not available
CONTACT INFORMATION:	CEDARE Office Address:2 Hegaz St. Heliopolis Tel:4513921/2 Fax:
CATALOG UPDATE:	4/2/2001

SECTOR:	Socio-economic
SUB SECTOR:	Environmental Planning
TITLE:	A Guideline for Preliminary Planning and Assessment of Energy and Environmentally Sound Tourist Villages in Remote Areas of the Sea Coast of Egypt
CITATION:	Ministry of Renewable and Electric energies. 1991. A Guideline for Preliminary Planning and Assessment of Energy and Environmentally Sound Tourist Villages in Remote Areas of the Sea Coast of Egypt.
LANGUAGE:	English
FORMAT:	Hardcopy
LOCATION:	USAID Library
ACCESSIBILITY:	Accessible

DESCRIPTION

CONTENT:	The document provides an introduction to the energy and environmental conservation technologies available for application in a tourist village setting.
METHODOLOGY:	Not available
SPATIAL BOUNDARY:	Remote Coastal Areas in Egypt
TEMPORAL BOUNDARY:	1991
CONTACT INFORMATION:	USAID Library Address: USAID office building, Block 1A of Ellasilky St., New Maadi Tel: 5227001/2 Fax:
CATALOG UPDATE:	8/2/2001